

## Ted Wynne Engineering/Contractor, Inc.

417 WELSHWOOD DRIVE • SUITE 114 • NASHVILLE, TN 37211 PHONE: 615-331-7660 • FAX: 615-333-0764

December 20,1999

Mr. Bill Stalker
Tennessee Valley Authority
P.O. Box 292409, Bldg 1, Suite 300
565 Marriott Drive
Nashville, Tennessee 37229-2409

Re: Nashville State Technical Institute in Cookeville hole test Cookeville, Tennessee

This office performed a thermal conductivity test on one (1) 200 feet deep, 6 inch diameter vertical bore, backfilled with drilled tailings, December 1, 1999. The following data was derived from test data:

Thermal Conductivity
Ground Temperature

1.80 BTU/HR-F

59.0 F

We feel that based on our observation of the terrain, the above is representative of the area where a field of Vertical Heat Exchangers will be located for this project.

The driller's logs are enclosed herewith. According to the Driller's Log submitted to our office the bore hole penetrated more that one water source, thus our office recommends that any future holes drilled should be Grouted to prevent transfer of water from one elevation to another.

Please let us know if any additional information is needed.

Sincerely,

TED WYNNE ENGINEERING CONTRACTORS, INC.

Ted Wynne P.E.

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## Mid-South Geo & Water Resources, Inc.

**WORK ORDER** 

P.O. Box 293 - Leoanon, TN 37088-0297

01009

Phone: (615) 444-0423 • Fax: (615) 444-0427

Date //- /8 - 99

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Job Nashuelle -	STATE Teck	Phone
-	Codeville TN	
Requested On: <u>//- //2 -</u>	99 By Bill	STAlker TUA
•		te Drilling //- / % - 99
	Depth to Ro	
Casing Set 42	Type & Size65/8/_	Bit Type/Size 6/4 Hammer
Yield 3-5 6P/	/ Water Zones	Quality Water /Vo Test
DEPTH		
1 - 90	P / /p /	

	DEPTH	FORMATION	
	0-20	Red Clay	
	20-34	SARRY MUND WET	
	34-41	Broken WET	
	41 - 50	Gray Line	
	50 - 75	h l'	
	75-100=13	11 //	
] '	100-125	11 /1.	
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	150 - 175	//	
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## Mid-South Geo & Water Resources, Inc. P.O. Box 293 • Eebanon, TN 37088-0297 Phone: (615) 444-0423 • Fax: (615) 444-0427

## **WORK ORDER**

01010

11- 14-99

Job Nashville	STATE Teel Phone		
Address Neal 57	Cookville County		
Requested On: 11-17-99 By 13:11 STALLEN TUA			
Start Drilling // -/४-99 Complete Drilling // - / 8 - 99			
Total Depth Depth to Rock Depth to Rock Size Bit Type/Size			
Yield 25-30 GpM Water Zones 60-75 / 140 Quality Water			
DEPTH	FORMATION		
0-29	Red Chy:		
29-45	SAND, Clay WET		
45-56	SANDY MUCH + CAVE		
56- 75	60-25 WATER 15 GOM		
75-100	L-ray Line + Green Shale		
100-125:	Gray Line		
125- 150	11/ //		
150-175	// . //		
175 - 200	185-185' SUFUR WATER 15-206PM		
208 70	STrong & Mell		